

# ABSTRACT OF THE DISCLOSURE

A network device includes a virtual router subsystem having potentially numerous virtual routers associated with corresponding different virtual private routed networks (VPRN) and employing generic interface identifiers to identify interfaces at which VPRN traffic is received or transmitted. A virtual interface subsystem couples the virtual router subsystem to physical interfaces of the device. The virtual interface subsystem includes virtual interfaces organized into linked sets, and each set associates a generic identifier of a virtual router with a physical interface to another network device serving the same VPRN. A basic type of set includes two VIs for interfacing a virtual router to a customer access link, and a more complicated set includes multiple pairs of several types of VIs to interface a virtual router to redundant label-switched paths on a channel-oriented backbone link such as an ATM link.

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